

8787

Diag. Cht. No. 8553.

Form 504	
U. S. DEPARTMENT OF COMMERCE	
COAST AND GEODETIC SURVEY	
DESCRIPTIVE REPORT	
Type of Survey	HYDROGRAPHIC
Field No.	PF-20-2-64 Recon. Office No. H-8787
LOCALITY	
State	ALASKA
General locality	COOK INLET
Locality	ANCHORAGE-FIRE ISLAND
1964	
CHIEF OF PARTY	
H. J. SEABORG	
LIBRARY & ARCHIVES	
DATE	AUG 10 1964

USCOMM-DC 5087

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H-8787

## HYDROGRAPHIC TITLE SHEET

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form,  
filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO.

PF-20-2-64-Recon

State AlaskaGeneral locality Cook InletLocality Anchorage-Fire IslandScale 1 : 20,000Date of survey 26 April - 6 May, 1964Instructions dated 2 April, 1964Vessel USC&GSS Pathfinder (OSS-30), ML #1, ML # 3Chief of party H. J. SeaborgSurveyed by Nixon, Newton, WilliamsonSoundings taken by echo sounder, ~~hand read~~Fathograms scaled by ship personnelFathograms checked by ship personnelProtracted by K. V. MarovichSoundings penciled by K. V. MarovichSoundings in ~~XXXXXX~~ feet at ~~XXXX~~ MLLW

REMARKS:

McEvoy

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SURVEY

PF-20-2-64-Recon

Scale of Sheet: 1:20,000

Year of Survey: 1964

USC&GSS Pathfinder

H. J. Seaborg, Capt.,  
USC&GS, Comdg.

A. Project:

Hydrography was performed as directed by Project Instructions, Alaska Earthquake Damage, SP-5-64, dated 2 April, 1964.

B. Area Surveyed:

The area covered by this survey begins at the middle portion of Knik Arm in the vicinity of Anchorage, Alaska and extends down to and including the Fire Island immediate vicinity. The area limits are from longitude  $149^{\circ} 52' W$  to  $150^{\circ} 23' W$  and from latitude  $61^{\circ} 07' N$  to  $61^{\circ} 16' N$ . The survey was completed in six days (April 26, 27, 28, 30, May 1, 6) and was of a reconnaissance nature necessitated by possible changes in charting information as a result of the March 27, 1964, earthquake. Blue line copies of prior survey H-8528, scale 1:20,000 were used as boat-sheets.

C. Sounding Vessel:

USC&GSS Pathfinder.....uppercase blue letters  
Motor Launch #1.....lowercase blue letters  
Motor Launch #3.....lowercase green letters

D. Sounding Equipment:

Raytheon Survey Fathometers, Model Number DE-723, were used on all sounding vessels working on this survey. Corrections for launches were determined from bar checks. An oceanographic station (latitude  $60^{\circ} 49.6' N$ , longitude  $151^{\circ} 21.2' W$ ) was observed on 28 March, 1964, to determine velocity corrections to be applied to the soundings.

Vessel

Serial Number of DE-723

Ship Pathfinder  
Motor Launch #1  
Motor Launch #3

821  
143  
141

E. Smooth Sheet:

The smooth sheet projection was made in compliance with Special Publication No. 5 and Publication 20-2.

F. Control:

Control of hydrography was by sextant fix-standard methods. All control stations except two are triangulation. These two stations are SOC and HIGH and were transferred from Manuscripts T-12013 and T-12014 respectively.

G. Shoreline:

A formal shoreline inspection was not made.

H. Crosslines:

About 16% of the total hydrography was crosslines. Agreement at crossings was within 3 ft. and in all cases the shoaler sounding was used and smooth plotted.

I. Junctions:

Satisfactory junctions were made with PF-10-1-64-Recon on the East and PF-20-3-64-Recon on Southwest.

J. Comparison With Prior Surveys:

Soundings from PF-20-2-64-Recon were compared to B0-20-1-63 (H-8728) and found to be in general agreement except for a shoal area directly North of Fire Island. The 1963 hydrography indicates this area to be shoaler than the 1964 hydrography. This can be explained by the constant movement of the sandy ocean floor due to ice floes and extreme currents. Reference was made to B0-2155(H-8213) and B0-20-1-60(H-8528) to verify the movement. This movement also applies to the area just North of buoy No. 1.

K. Comparison With The Chart:

Soundings from PF-20-2-64-Recon were compared with C&GS Chart 8557 and found to be in satisfactory agreement except for the areas described in J.

L. Adequacy of Survey:

This survey is not adequate to supercede prior surveys but should be used to correct prior surveys.

M. Aids to Navigation:

There were three buoys in the hydrography area. Buoys No. 2 and 4 were not located as such but appear to be in the right position as per C&GS Chart 8557 where sounding lines passed close aboard the buoys. Buoy No. 1 was located at longitude 150° 05.18'W and latitude 60° 12.15'N. This position is about 0.15 mile SSE of the charted position.

Race Point light on the Northwest side of Fire Island is in the same apparent position and is in operation. Point MacKenzie Light is in the same apparent position and is in operation.

N. Statistics:

	<u>Ship</u>	<u>ML#1</u>	<u>ML#3</u>
Total no. of position	311	232	206
Total miles of sdg.	63.8	57.6	44.0
Total area surveyed -----	22 sq. mi.		

One tide station was positioned at Anchorage

One oceanographic station was within the area.

O. Miscellaneous:

No unusual submarine features were found.

To expedite information or critical changes found during this survey a copy was made of this work incorporating the hydrography of the ship and two launches on one sheet. This copy was then disseminated to interested agencies in the Alaskan area. See Special Report - Reconnaissance Hydrography Knik Arm, Cook Inlet, Alaska, Chart 8557 by Commanding Officer, Ship PATHFINDER.

P. Recommendations:

Additional reconnaissance hydrography is not called for.

TIDE NOTE

The standard tide gage at City Dock in Anchorage was used. The hourly tides from this gage were used to correct soundings from longitude 150° 02' Eastward. From 150° 02' Westward the

predicted Fire Island differences in heights and times of tide were used but were applied to the actual tide curve as developed from the Anchorage tide gage.

The location of this tide gage is longitude  $149^{\circ} 53' 09''$  and latitude  $61^{\circ} 14' 26''$ .

ABSTRACT OF CORRECTIONS TO ECHO SOUNDINGS

Velocity corrections (attached)

See Season's Report.

Respectfully submitted,

*Kenneth V. Marovich*

Kenneth V. Marovich  
LTJG, C&GS

USC&GSS PATHFINDER  
OSS-30  
H.J. Seaborg, Comdg.

VELOCITY CORRECTIONS  
Cook Inlet, Alaska

To be applied to all hydrography accomplished in Cook Inlet  
on Project SP-5-64 from 20 April 1964 through 20 June 1964.

Correction to Depth

0.0 fm	12 fm
-0.1	22+

Correction to Depth

0.0 feet	14 feet
-0.2	72
-0.4	106
-0.6	132+

LIST OF SIGNALS

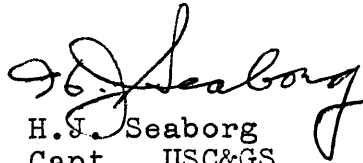
CITY	Anchorage, City Water Tank, Apex(Steel), 1941
HIGH	High (Hydro signal)
JOY	Race Point, 1909
KEN	Anchorage, Radio Station KENI, Tower, 1954
LITE	Point MacKenzie Light, 1960
NOP	North Point, 1960
RACE	Race Point Light, 1941
RIFE	Rife, 1960
SOC	Soc (Hydro signal)
TANK	Anchorage, Alaska Railroad, elevated tank, 1947
THUG	Thug, 1960
TRIP	Trip, 1960
WAVE	Anchorage, ACS Micro-wave Relay Tower, Red Light, 1960
ZOF	Woronzof 4, RM 1, 1960



APPROVAL SHEET

The field work on this survey was inspected where conditions permitted. The records and boatsheet have been examined and approved.

The Survey is considered complete and adequate for the purpose intended, checking for any major changes wrought by the March 27, 1964 earthquake. No additional work should be necessary.

A handwritten signature in dark ink, appearing to read 'H.J. Seaborg', is written over the typed name.

H.J. Seaborg  
Capt., USC&GS  
Comdg., Ship PATHFINDER

# GEOGRAPHIC NAMES

Survey No. H-8787

Name on Survey	<div>On Chart No.</div> <div>On previous survey No.</div> <div>On U. S. quadrangle Maps</div> <div>From local information</div> <div>On local Maps</div> <div>P. O. Guide or Map</div> <div>Rand McNally Atlas</div> <div>U. S. Light List</div>										
	A	B	C	D	E	F	G	H	K		
Anchorage										1	
Cook Inlet										2	
Fire Island										3	
North Pt.										4	
Pt. Woronzof										5	
Race Pt.										6	
										7	
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										26	
										27	

Names approved

1-19-65

A. J. Wright

**HYDROGRAPHIC SURVEY STATISTICS**  
**HYDROGRAPHIC SURVEY NO. 8787**

**RECORDS ACCOMPANYING SURVEY:** To be completed when survey is registered.

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION			AMOUNT
SMOOTH SHEET		1	Returned to the field BOAT SHEETS			
DESCRIPTIVE REPORT		1	OVERLAYS			
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES	2					
CAHIERS						
VOLUMES	1					
BOXES						

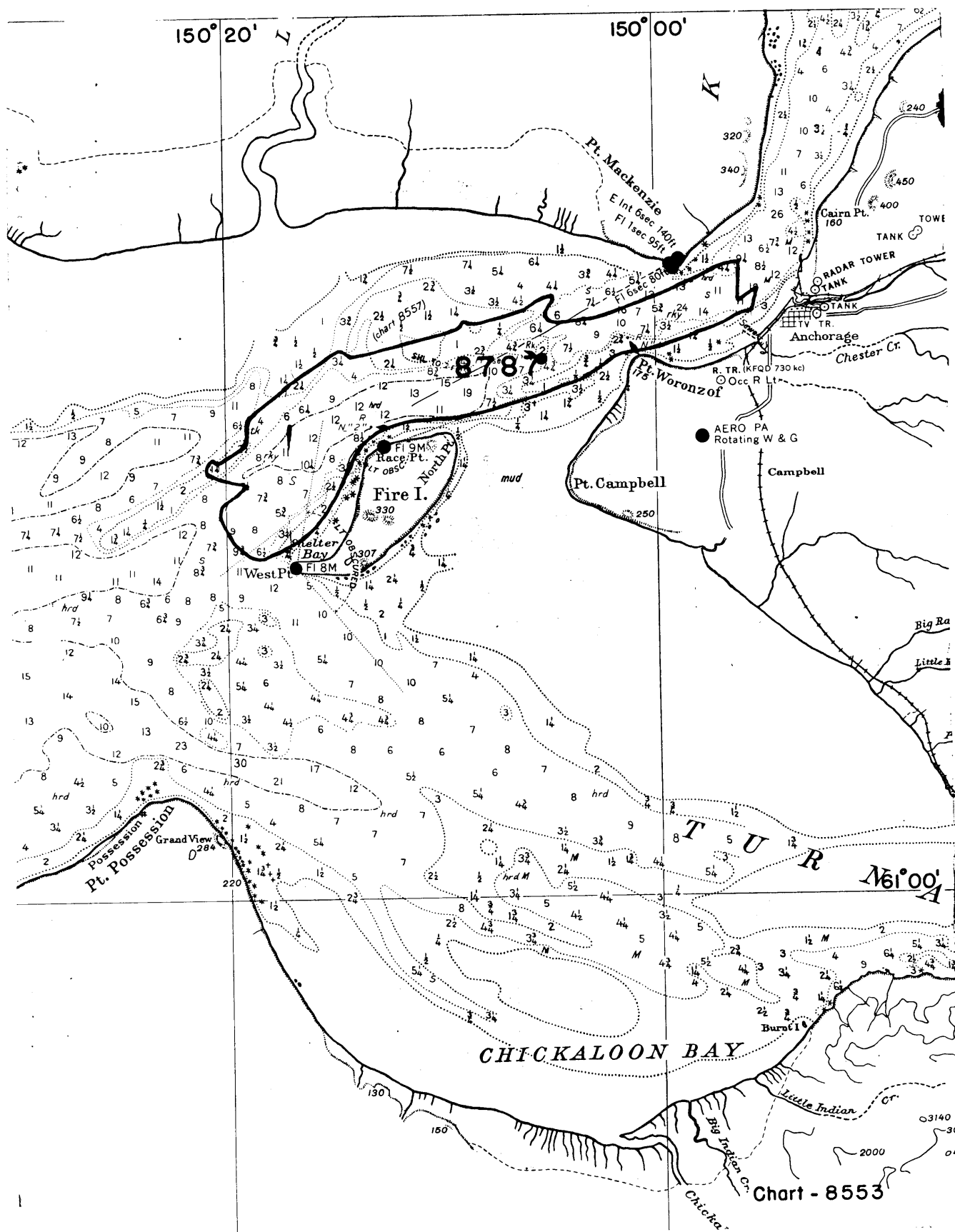
T-SHEET PRINTS (*List*)

SPECIAL REPORTS (*List*)

**OFFICE PROCESSING ACTIVITIES**

The following statistics will be submitted with the cartographer's report on the survey

PROCESSING ACTIVITY	AMOUNTS			
	PRE- VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				
POSITIONS CHECKED				
POSITIONS REVISED				
DEPTH SOUNDINGS REVISED				
DEPTH SOUNDINGS ERRONEOUSLY SPACED				
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED				
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS				
JUNCTIONS				
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS				
SPECIAL ADJUSTMENTS				
ALL OTHER WORK				
<b>TOTALS</b>				
PRE-VERIFICATION BY		BEGINNING DATE	ENDING DATE	
VERIFICATION BY		BEGINNING DATE	ENDING DATE	
REVIEW BY		BEGINNING DATE	ENDING DATE	



TIDE NOTE FOR HYDROGRAPHIC SHEET

Nautical Chart Division: R. H. Carstens

Plane of reference approved in  
4 volumes of sounding records for

HYDROGRAPHIC SHEET 8787

Locality: Anchorage - Fire Island, Alaska

Chief of Party: H. J. Seaborg

Plane of reference is mean lower low water

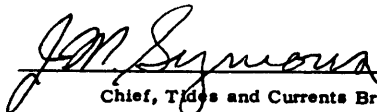
Tide Station Used (Form C&GS-681): Anchorage

Height of Mean High Water above Plane of Reference is as follows:

Anchorage	27.2 feet
Fire Island	25.0 feet

Remarks NOTE: Tide reducers for the positions listed below have been revised in red and verified.

Vol	Pos	Vol	Pos
1	1a to 35a	4	39A to 45A
1	53a to 73a	4	106A to 120A
3	5a to 49a	4	1C to 8C
3	1c to 35c	4	1E to 81E
3	1d to 64d		

  
Chief, Tides and Currents Branch

# **VERIFIER'S REPORT** **HYDROGRAPHIC SURVEY, H-8787**

**INSTRUCTIONS** - This form serves to identify items of a check list in verification together with items which are separately reported to the Reviewer. The form is not to be forwarded to the Reviewer. A report, which is prepared for the Reviewer, should identify items by number and letter and will be filed in the Descriptive Report until the survey is reviewed.

**CL - Check List Items:** should be checked as having been completed during the verification processes.

**R - Report Item:** This column refers to those items reported to the reviewer and is used to indicate the items discussed.

Part I - DESCRIPTIVE REPORT	CL	R	Part III - JUNCTIONS (Continued)	CL	R
<b>Note:</b> The verifier should first read the Descriptive Report for general information and problems.  1. The Descriptive Report was consulted, paragraphs checked if found satisfactory, and notations were made in soft black pencil regarding action taken. Remarks Required: -- None			10. Junctions with contemporary surveys were satisfactory except as follows:  Remarks Required: -- Consider conditions after adjustments have been made; note adjustments made. Make special notes of <b>Butt</b> junctions and areas which are <b>SUPERSEDED</b> .		
2. Soundings originating with the survey and mentioned in the Descriptive Report have been verified and checked in soft black pencil, including latitude and longitude, together with position identification. Remarks Required: -- None			<b>Part IV - VOLUMES</b> 11. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken and exceptions noted in the volumes.  Remarks Required: -- None		
3. All reference to survey sheets mentioned in the Descriptive Report should include registry number and year. Remarks Required: -- None					
<b>Part II - SHORELINE AND SIGNALS</b> 4. Source of shoreline signals Remarks Required: -- List all surveys  a. Give earliest and latest dates of photographs  b. Field inspection date  c. Field Edit date  d. Reviewed-Unreviewed			12. Condition of sounding records was satisfactory except as follows:  Remarks Required: -- Mention deficiencies in completeness of notes or actions for the following:  (a) rocks (b) line turns (c) position values of beginning and ending of lines  (d) bar check or velocity correctors  (e) time recording (f) notes or markings on fathograms (g) was reduction of soundings accurately done?  (h) was scanning accurate? (i) were peaks at uneven intervals missed? (j) were stamps completed? (k) references to adjacent features		
5. The transfer of contemporary topographic information was carefully examined and reconciled with the hydrography. Remarks Required: -- Discuss remaining differences.					
6. The plotting of all triangulation stations, topographic stations and hydrographic signals has been checked and noted in processing stamp No. 42 on the smooth sheet. Remarks Required: -- None					
7. Objects on which signals are located and which fall outside of the high-water line have been described on the sheet. Remarks Required: -- List those signals still unidentified.			<b>Part V - PROTRACTING</b> 13. All positions verified instrumentally were check marked in color in the sounding records, and verifier initialed the processing stamp. Remarks Required: -- None		
<b>Part III - JUNCTIONS</b> <b>Note:</b> Make a cursory comparison preliminary to inking soundings in area of overlap.  8. All junctions of contemporary or overlapping sheets were transferred in colored ink and overlapping curves were made identical. Remarks Required: -- None			14. The protracting and plotting of all unsatisfactory crossings were verified. Remarks Required: -- None		
9. The notation in slanted lettering "JOINS H--- (19 )" was added in colored ink for all verified contemporary adjoining or overlapping sheets. Those not verified are shown in pencil. Remarks Required: -- None			15. All detached positions locating critical soundings, rocks, buoys, breakers, obstructions, kelp, etc., were verified and the position numbers are legible. Remarks Required: -- None		

Part V - PROTRACTING (Continued)	CL	R	Part VIII - AIDS TO NAVIGATION	CL	R
16. The protracting was satisfactory except as follows: Remarks Required: -- Refers to protracting in general except for specific faults repeated often, or faults in control information, which required considerable replotting or adjustments.			26. All fixed aids located together with those on the contemporary topographic sheets, have been shown on the survey.  Remarks Required: -- Conflicts of any nature listed.		
17. The protractor has been checked within the last three months. Remarks Required: -- Date of check, type of protractor and number.			27. All floating aids listed in the Descriptive Report should be verified and checked in soft black pencil, including latitude and longitude and position identification.  Remarks Required: -- None		
<b>Part VI - SOUNDINGS</b> 18. All soundings are clear and legible, and critical soundings are a little larger than adjacent soundings. Remarks Required: -- None			<b>Part IX - BOAT SHEET</b> 28. The boat sheet was constantly compared with the smooth sheet with reference to notes, position of sounding lines and supplemental information. Remarks Required: -- None		
19. Sounding line crossings were satisfactory except as follows: Remarks Required: -- Discuss adjustments.			29. Heights of rocks awash were correctly reduced and compared with topographic information. Remarks Required: -- Note excessive conflicts with topographic information.		
20. The spacing of soundings as recorded in the records was closely followed; Remarks Required: -- None			<b>Part X - GENERAL</b> 30. All information on the sheet is shown in accordance with figures 82 and 83 in the Hydrographic Manual (Pub. 20-2).  Remarks Required: -- None		
21. The scanning, reduction, spacing, plotting of questionable soundings have been verified. Remarks Required: -- None			31. Unnecessary pencil notes have been removed from the sheet. Remarks Required: -- None		
22. The smooth plotting of soundings was satisfactory except as follows: Remarks Required: -- Refer to legibility, errors in spacing, and errors in numbers - but not to errors in scanning.			32. Degree, minute values and symbols have been checked; also electronic distance arcs have been properly identified and checked on the smooth sheet.  Remarks Required: -- None		
<b>Part VII - CURVES</b> 23. The depth curves have been inspected before inking. Remarks Required: -- By whom was the penciled curves inspected.			33. The bottom characteristics are adequately shown. Remarks Required: -- None		
24. The low-water line and delineation of shoal areas have been properly shown in accordance with the following:  a. From T-Sheet in dotted black lines b. From soundings in orange c. Approximate position of sketched curve is dashed orange d. Approximate position of shoal area not sounded in black dashed  Remarks Required: -- None			<b>Part XI - NOTES TO THE REVIEWER</b> 34. Unresolved discrepancies and questionable soundings.		
25. Depth curves were satisfactory except as follows: (This statement should not refer to the manner in which the curves were drawn). Remarks Required: -- Indicate areas where curves could not be drawn completely because of lack of soundings. For some inshore areas a general statement is sufficient.			35. Notation of discrepancies with photogrammetric survey inserted in report of unreviewed photogrammetric survey or on copy.		
			36. Supplemental information.		
Verified by			Date		

## RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8787

## INSTRUCTIONS

**A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.**

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
8553	3-10-65	E. H. Gregory	<del>Full Part Before</del> Verification Review Inspection Signed Via Drawing No. <i>Revised side, if necessary, that were used from BP 65793 (copy of B.S.)</i>
9557	3-18-65	E. H. Gregory	<del>Full Part Before</del> Verification Review Inspection Signed Via Drawing No. <i>Revised side, if necessary, that were from BP 65793 (copy of B.S.) (Inset &amp; chart)</i>
9557 Extension 7-8-65		E. H. Gregory	<del>Full Part Before</del> Verification Review Inspection Signed Via Drawing No. <i>Comp appld to extension</i>
8500	2-8-66	H. Redden	Full <del>Part</del> Before <del>After</del> Verification Review Inspection Signed Via Drawing No. <i>Consider fully appld because hydro net shown in this area</i>
8553	7/12/68	Ranis	<del>Full Part Before</del> Verification Review Inspection Signed Via Drawing No. <i>24 superseded see H-9441, 9442, 9444.</i> Full Part Before After Verification Review Inspection Signed Via Drawing No.  Full Part Before After Verification Review Inspection Signed Via Drawing No.  Full Part Before After Verification Review Inspection Signed Via Drawing No.  Full Part Before After Verification Review Inspection Signed Via Drawing No.